high definition and NTSC video taped test materials needed for conduct of the FCC Advisory Committee's subjective test plans.[8] The task was mammoth, encompassing many man-years of effort and several hundred thousand dollars in cash and in-kind equipment loans. As is true for all Advisory Committee activities, this job involved many interested parties, each with particular viewpoints on various aspects of the task.

---

[8] It is appropriate here to express the gratitude of the Working Party and the Planning Subcommittee to the proponents, test laboratories and broadcasters who made cash contributions to the production of the test materials; to thank the many companies who loaned valuable equipment to the effort, and to express gratitude to those who volunteered their expertise and in some cases, many, many weeks of labor away from their normal job responsibilities to make the technical complement of equipment work successfully.

Deserving of special commendation are Craig Tanner of CableLabs who served as Executive Producer of the test materials, Jim Gaspar of the Panasonic Advanced Television & Video Laboratory, who served as Technical Coordinator for the studio and exterior productions; and Paul Hearty of the Advanced Television Evaluation Laboratory in Ottawa, Canada, who served as Content Coordinator for the studio-based scenes. Thanks also to Alan Godber and Jay Ballard of NBC, who contributed substantial time and expertise. All those working on this project did so under conditions of extreme time and cost pressure. They successfully resolved many technical challenges never before met in any video production. Credit is also due Phil Crosby of Tektronix Corporation, for his early work on interfacing the Tektronix Format Converter to the Sony digital high definition video tape recorders to allow digital recording of the high definition video signals.

Thanks also to David Niles and the staff of Captain of America, the New York-based high definition production company contracted to do the production by the Working Party.

Although not every participant was completely satisfied with every aspect of the production effort, the Working Party has successfully completed production of the studio portion of the test materials, although some post-production editing is required before delivery to the Advanced Television Test Center and Cable Television Laboratories. It is expected that this material will be edited and ready for final delivery by March 22, 1991.

The Working Party has also successfully produced the "proponent" videotape materials, and they are presently being edited. These are ten 2-minute scenes intended for delivery to each of the ATV system proponents except Zenith and MIT, who did not participate in this phase of the production. This material is intended for laboratory use by the ATV system proponents in preparing their systems for test. The material consists of exterior shots around New York City in three of the high definition formats needed, and will provide a wide range of visual material for proponents' system testing, without compromising the integrity of the official subjective test material.

Finally, the Working Party, as part of the production of the studio-based video material, and with the cooperation of the Advanced Television Test Center, recorded in all five formats the mechanically-rotated dynamic resolution patterns needed for the objective testing of the proposed ATV systems.

Remaining on the Working Party's work schedule in the coming weeks are the final verification of the technical performance of the multi-format telecine system being built under contract to Zenith Electronics Corporation by Showscan Film Corporation and with the assistance of BTS, Inc. When this system is verified as having satisfactory technical performance, the four film segments, each 10 seconds in length, will be transferred to the four high definition video formats and to NTSC. These will include two scenes at 24 frames per second, one scene at 30 frames-per-second, and one 70mm scene at 60 frames-per-second.

Finally, the Working Party must complete the computer-based rendering of a single 10-second motion sequence and a single still image, and transfer the resultant digital image data to the four high definition video formats and to NTSC. AT&T Bell Laboratories is completing a final, detailed technical proposal describing this work, and PS/WP-6 expects to be able to give a go-ahead for the rendering work to begin at Bell Labs. Conversion of the master rendered image to the five required formats and the final recording of these images is expected to be completed by April 3, 1991.

F. Progress Report of Working Party 7: Audience Research

Since its last report, Working Party 7 has focused primarily on its new work statement in which the group was

called upon to: (a) seek financial support for proposed audience research program; and (b) develop a liaison with SS/WP-2 to assess possible synergies between their activities and those of PS/WP-7.

PS/WP-7 held a meeting on July 11, 1990 at NAB Headquarters in Washington, D.C. to discuss these items. Actions pursuant to this meeting have not been fruitful in terms of securing funding or in identifying meaningful ways in which WP-7 could develop a productive liaison with SS/WP-2 due to the fundamentally different goals and methods of the two working parties.

PS/WP-7 was also to have considered a study for evaluating audience responses to "letter box" television pictures (i.e., displaying a widescreen picture in an NTSC format in a fashion that leaves some form of bars at the top and bottom on the picture). Since the Advanced Television Test Center awarded a contract for this research, WP-7 sought to coordinate its interest with those of ATTC. Ultimately, this was not a productive path. Currently, the point is largely moot because none of the six proponent systems have indicated that they will employ a letter box solution and ATTC has therefore decided to cancel its work in this area.

In conclusion, it appears that while WP-7 was able to develop a comprehensive research program to investigate consumer reactions to advanced television systems, the

research cannot be executed due to lack of financial support forthcoming from industry, foundation, or government sources.

V. FURTHER WORK

A substantial portion of the responsibility assigned the Planning Subcommittee has been in making preparations for the testing process. In this regard, the Subcommittee has identified ATV attributes that should be assessed and specified the tests needed to make those assessments. In addition, the Subcommittee has created and produced the video material that will be used in making some objective and all subjective evaluations of ATV systems.

The Advisory Committee's program of system testing will commence soon. Consequently, one of the Planning Subcommittee's primary missions has been completed, and several of its component groups will be disbanded. To allow for re-activation if required, however, a few Working Parties will remain constituted in a "stand-by" mode. As discussed below, Working Parties 3, 5 and 6 will remain active.

A. Further Work of Working Party 1: Technology Attributes and Assessment and Working Party 2: Testing Evaluation and Specifications

The bulk of PS/WPs' 1&2 work is completed. However, because the test plans may require further refinement, the

working parties will remain constituted to provide support for this effort.

B. Future Work of Working Party 3: Spectrum Utilization and Alternatives

Over the remaining life of the Advisory Committee, PS/WP-3 will concentrate its efforts on three general tasks. First and most importantly, it will prepare for and conduct comparative evaluations of the coverage and interference characteristics of each ATV system.

In this regard, the Working Party has already articulated certain properties of a preferred ATV system. Among these are qualities which would allow for the assignment, to essentially all existing television stations, an additional ATV channel with coverage essentially equivalent to NTSC Grade B. The Working Party will undertake to propose such a channel assignment for ATV systems. The Working Party's spectrum evaluations will necessarily include an assessment of how well each system meets this objective. To conduct this evaluation, each system's planning factors must be finalized and the development of a computerized model for rating and presenting the comparative analysis must be completed.

A second important task of PS/WP-3 will be to conclude its study of broadcast distribution and contribution circuit requirements and options. Based on the results of this

study, the Working Party will strive to develop recommendations for consideration by the Advisory Committee and the Commission.

Finally, the Working Party will renew its coordination efforts with Canada and Mexico.

C. Further Work of Working Party 4: Alternative Media Technology and Broadcast Interface

PS/WP-4 has contributed meaningfully to the Advisory Committee's effort by ensuring both that the Committee's test plans assess adequately how well terrestrial ATV systems interface with cable media and that proponents are informed as to the special requirements of these media. Its work is essentially complete. No further work is planned beyond continued monitoring of ongoing work of other organizations. In light of the importance attached to the non-broadcast interface, however, PS/WP-4 will remain constituted to act in an advisory role as conditions dictate.

D. Further Work of Working Party 5: Economic Factors and Market Penetration

PS/WP-5 has done an outstanding job in conducting the macroeconomic analysis contemplated for the Planning Subcommittee. This work is essentially complete, and much of the economic study now being conducted is performed in coordination with Systems Subcommittee Working Party 3 that

has responsibility for estimating systems costs. PS/WP-5 will continue to refine its macro-economic analysis as new factual data becomes available, and it will begin work on its assignment to investigate the implications of ATV policies for industrial development and international trade.

E. Further Work of Working Party 6: Subjective Assessment

Once it completes working on the film transfers and electronically generated still video test material, Working Party 6 will have completed its primary assignment -- the design and creation of the motion and still video sequences used in the subjective and objective tests of ATV systems. However, a remaining and important incidental responsibility of the Working Party is the maintenance and management of the stock of specialists used to supply the expert viewer panels that will conduct some of the tests. Accordingly, PS/WP-6 will remain in an active status. The Working Party will work directly with the Planning Subcommittee Chairman to create and administer the expert viewer project.

F. Further Work of Working Party 7: Audience Research

Despite the outstanding effort PS/WP-7 has made in planning several market research efforts, funds have not been secured for these studies. Inasmuch as the information derived from these studies would have been of most benefit

earlier in the Advisory Committee process, it is concluded that there is little advantage in continuing the Working Party's activities. Accordingly, PS/WP-7 is disbanded.

G. Further Work of Advisory Group 1: Creative Issues and Advisory Group 2: Consumer and Trade Issues

Both of these Advisory Groups made important contributions in the first 18 months of the Advisory Committee's existence and helped set the stage for much of the progress the Committee has enjoyed. More recently, the involvement of these groups has been very limited, however. Inasmuch as economic issues are now being dealt with adequately in PS/WP-5 and SS/WP-3, it is concluded that Advisory Group 2 need no longer continue as a separate entity. Advisory Group 1 will remain constituted, however, to provide the Committee with a ready source of advice from the creative community.

VI. CONCLUSIONS AND RECOMMENDATIONS TO THE ADVISORY COMMITTEE

As is apparent from this report, the Planning Subcommittee has succeeded in completing much of its mission. Although other assignments may arise, at this point the only readily identifiable tasks remaining for the Subcommittee are the administration of the spectrum analyses and the management of the expert viewing panels. These are two

exceedingly important activities, and, as discussed below, their successful completion requires guidance and support from the Advisory Committee.

A. Expert Viewing Panels

Based on recommendations in the Planning Subcommittee's Third Interim Report, the test plan now calls for employing panels of expert viewers to establish thresholds and ranges of the various subjective impairments. Use of this approach ensures that, without sacrificing the quality of test results, the time and money expended on subjective testing can be reduced substantially from what otherwise would be required.

This method obviously requires enlisting un-biased experts. The FCC has agreed to contribute some staff to this effort, but a relatively large number of private sector experts will also be required. It is estimated that this project will require nearly 300 man-weeks of effort at the ATTC in Washington, DC, spread over a two-year period. The process of identifying these private sector candidates has begun, but an issue which has not been addressed explicitly, is the financial support of these experts in Washington. Hopefully, as has been the case for all the other Advisory Committee participants, the companies with whom these experts

are affiliated will donate the time and expense money required of their participating employees.

Many of the potential experts will undoubtedly come from firms and companies represented on the parent Advisory Committee. It is therefore envisioned that members of the blue ribbon panel will commit to supporting this effort. If, however, this support is not forthcoming, some other form of financing will have be found.

B. Spectrum Goals and Analyses

The Planning Subcommittee, through its Working Party 3, is playing an important role in quantifying the spectrum requirements of ATV systems. As reported above, PS/WP-3 has already outlined what it believes are desirable attributes of a preferred ATV system, including the ability to "fit" into the existing taboo structure in such a way as to provide essentially all existing broadcasters with a simulcast channel whose coverage characteristics are equivalent through the NTSC Grade B service.

The spectrum analyses are likely to present many tradeoffs. Every analysis of spectrum availability involves many computer "runs" each of which generates its own unique channel assignment plan. Insofar as a particular system is preferred in part because of its superior spectrum characteristics, it is planned to memorialize those

characteristics into a channel assignment plan that would be offered to the FCC as part of the ATV system recommendation. Therefore, the Planning Subcommittee Chairman recommends that the Advisory Committee endorse the goal of developing a detailed channel assignment plan for the ATV system it judges as preferred.

VII. SUMMARY OF PLANNING SUBCOMMITTEE ACTIONS AND CHAIRMAN'S RECOMMENDATIONS

The actions of the Planning Subcommittee and the recommendations of its Chairman are recapped below:

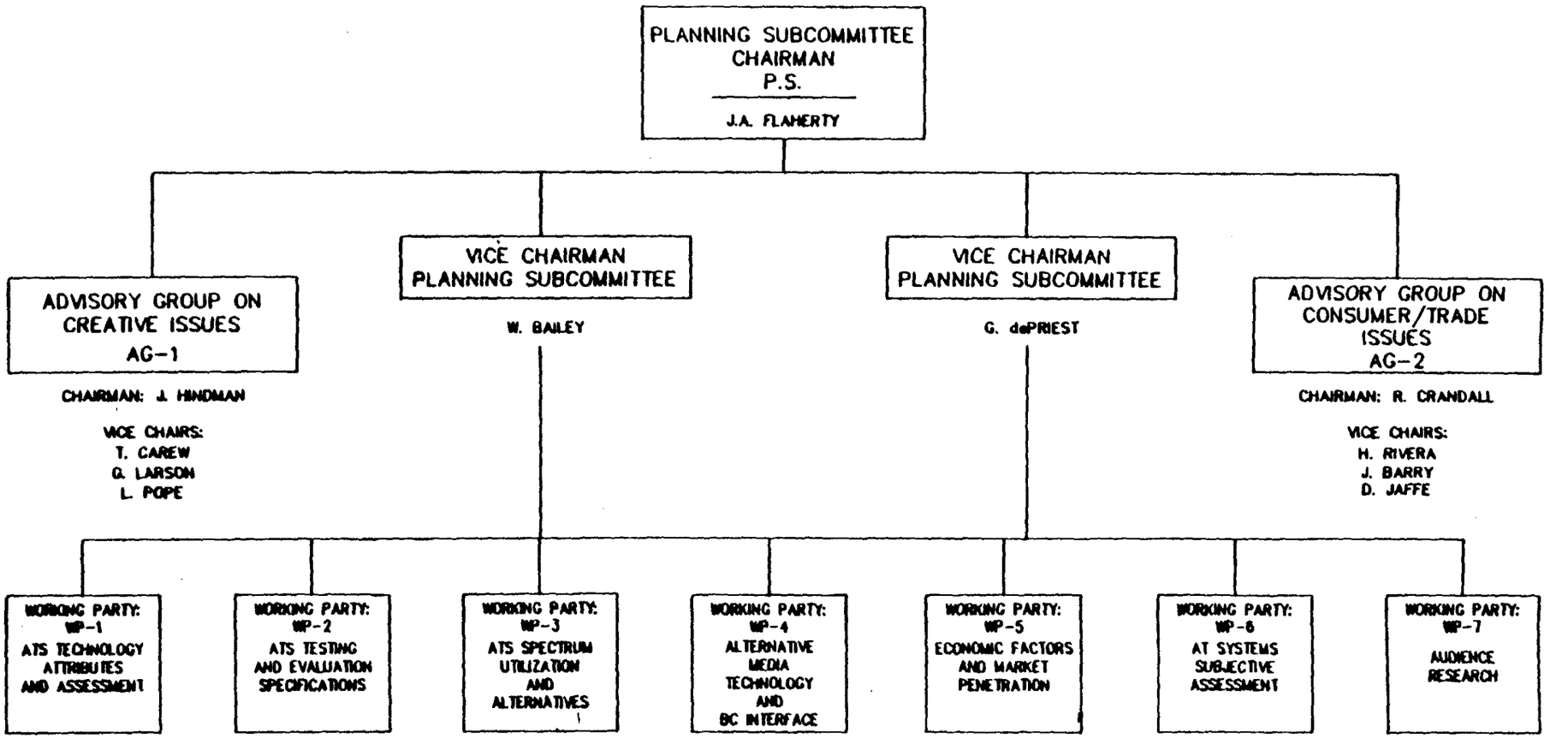
- Due to the completion of many of its duties, the Planning Subcommittee is terminating Advisory Group 2 and Working Party 7. Working Parties 1, 2, and 4 will remain constituted in a "stand by" mode. Working Parties 3, 5 and 6 will remain active.

- It is recommended that individual companies represented on the Advisory Committee's parent panel explicitly commit to support the funding for the expert viewers that will be used in testing ATV systems.

- It is recommended that the Advisory Committee endorse the goal of PS/WP-3 to develop an explicit channel assignment plan for the preferred ATV system.

FEDERAL COMMUNICATIONS COMMISSION
ADVISORY COMMITTEE ON ADVANCED TELEVISION SERVICE

1/31/90



APPENDIX A

FOURTH INTERIM REPORT OF

WORKING PARTY 1

ON ATS TECHNOLOGY ATTRIBUTES AND ASSESSMENTS

and

WORKING PARTY 2

ON ATS TESTING AND EVALUATION SPECIFICATION

of the

PLANNING SUBCOMMITTEE

of the

ADVISORY COMMITTEE ON ADVANCED TELEVISION SERVICE

March 1991

Renville H. McMann
963 Oenoke Ridge
New Canaan, CT 06840

PSWP1 & WP2-080

TO: J. Flaherty, Chairman - Planning Subcommittee (PS)
FM: R. McMann, Chairman - PS Working Party 1 (PS/WP1)
DT: 30 November 1990
RE: Chairman's Report for ACATS Interim Report #4 from PS/WP1 and PS/WP2.

PS/WP1 (Working Party on ATS Technology Attributes and Assessments) and PS/WP2 (Working Party on ATS Testing and Evaluation Specification) were reconvened at the request of the Planning Subcommittee Chairman.

You should note that this report covers the activities of both PS/WP1 and PS/WP2, as the two committees met jointly throughout this reporting period.

PS/WP1 and PS/WP2 were reconvened to address the following:

1) the need to supplement the testing of audio channels in the digital domain and objective testing of audio channels in the analog domain by subjective assessment;

2) testing of image dynamic resolution;

3) testing of compatible systems;

4) use of Show-scan material;

5) test method for EDTV into IDTV receivers;

6) use of pre-enhanced material for testing;

7) consider deleting the chroma resolution requirement in Section 6.2; and

8) source signal processing.

Meetings were held on 29 May, 6 July and 8 October 1990. Minutes of the meetings along with supporting documents are attached.

During the meeting of 29 May 1990, the Committee agreed to, henceforth, meet jointly and work in concert. The Committee also addressed items 1) through 6) above.

After a short discussion, the members agreed that testing of the audio channels in the digital

domain and objective testing in the analog domain provides important and useful information about bit rate errors, system robustness, and the characteristics of the system. However, these tests are not sufficient to determine system performance and must be supplemented by **subjective assessment** during the ATTC laboratory tests **by an expert panel.** The Committee, therefore, added to the attributes list in section II," **3.14 Subjective Assessment by an expert panel."**

In response to a report that SS/WP4 Task Force on Priorities had raised the question of defining a minimum audio service, the members agreed that there should be no change to the present statement that the minimum service is that provided within current NTSC practices namely a stereo audio pair and a SAP channel.

The members did agree to add to the list under II, 3.11, Audio Security, a request for information about any scrambling techniques, as section **3.11.4 Scrambling Techniques.** The current section 3.11.4 would be renumbered as section 3.11.5.

The members considered the question of adding an attribute concerning response to "sudden cuts" and concluded that sections 3.9.4.7, 3.10.4.7, and 3.11.5.6 - "Any other artifacts" covered this item.

It was reported that SS/WP2 had decided that a dynamic zone plate test signal should be used to test dynamic resolution. The members concluded that the current attributes list sufficiently covers this item but noted that during objective testing there should be qualitative assessment of the effect on the image, as well as, quantitative assessment.

The members agreed that for the purpose of testing compatible systems, FCC Regulations, Part 73 should be applied as appropriate.

The members further agreed that Working Parties 1 and 2 should provided input to the Chair of SS/WP2 Task Force on Field Testing on the concerns the members have on that issue. The members agreed that there is a consensus within WP1&2 that while laboratory testing will produce much information on the performance characteristics of a system, that issues of multiple path and ATV/ATV interferences can only be tested in the field.

After discussion and consideration of the system testing requirements, the members reached consensus that a signal source of high spectral and temporal quality having no lag and exhibiting high quality MTF should be employed and that the Showscan system could provide such a source. The members recommended the use of 10 seconds, minimum of a such a source to provide a means of demonstrating growth potential and possibility of system adeptness to handle future high definition sources.

The members agreed that in the testing of any proponent system, sample IDTV receivers of the latest type should be included in the tests. The attributes list for Section II, 8. Consumer Equipment Issues was modified to include **8.3.4 IDTV Receiver Compatibility.**

IDTV and standard NTSC receivers should be observed for performance with and without line and/or frame comb filtering.

The members discussed what was meant by the term "enhancement" and agreed that adjusting camera response to being essentially flat is not considered enhancement. The members agreed that "non-enhanced" materials should be used and that all materials should be "normalized". Normalization means that camera generated images should be made to match as closely as possible electronically generated images within the bandwidth limitations of the system and that adjustments to camera generated images should not produce overshoots of over 5% with a goal of a maximum of 2% being urged. Further, no images should be used for testing which have been noise cored.

During the meeting of 6 July 1990, the Committee addressed item 7) above.

In response to item 7) the members stated: "We recognize the difficulty of obtaining the MTF curves requested in attribute 2.2 without obtaining internal signals from proponent equipment. Because of the importance of this attribute, indirect methods may be employed to quantify chroma response." It was pointed out that the value to be measured is for the smallest object that can be reproduced in color.

Attribute **6.4 Susceptibility to Interference** was modified by adding the phrase **"on picture and sound."**

During the meeting of 8 October 1990, the Committee addressed item 8) above.

After discussion of item 8), the members agreed to modify the attributes list section **1.4 Artifacts** and to add the following:

> **1.4.1 The performance of ATV systems which have been spatially or temporally prefiltered including the use of motion detection.**
>
> **1.4.2 The performance of ATV systems in response to input signals having random noise, clock noise, etc. superimposed on them.**

Some members present raised concerns about the ability of the ATTC to test these attributes considering costs and time involved. The Working Party decided that it was inappropriate for it to make a decision on this question, that the decision belonged elsewhere.

There was a discussion on the appropriateness of Washington as the field test site and on the need to have more than one such test site. There was consensus to add two more attributes to the list in **Section 6.9 Transmission Field Testing** as follows:

6.9.1 At least one (1) location exhibiting average amount of difficulty, and

6.9.2 At least one (1) location considered "difficult".

J.Kean was assigned the task of liaising with ATTC to provide specific descriptions on how each of the attributes would be tested.

It was reported that the field tests were designed to obtain data on system performance in response to multi-path delays, airplane flutter, weather conditions, and the like. The testing will also be directed to the UHF band. There are currently no plans to test in the low-band VHF spectrum. The broadcasters present believed that performance testing in both bands was an important issue.

PS/WP1&WP2-060

29 Nov 90

FCC ADVISORY COMMITTEE ON ADVANCED TELEVISION SERVICE [ATS]
PLANNING SUBCOMMITTEE
WORKING PARTY 1 [PS/WP1]
ON ATS TECHNOLOGY ATTRIBUTES AND ASSESSMENTS
AND WORKING PARTY 2 [PS/WP1]
ON ATS TEST PLANNING

DOCUMENTS LIST

PS/WP1&WP2#	DOCUMENT
-060	Document List - 4th Report
-061	Draft Agenda, Meeting of 29 May 1990
-062	Letter from North American Philips of 14 Dec 89
-063	Letter from R.E. Wiley to J.A.Flaherty and I. Dorros of 10 May 1990
-064	Letter from Mark Richer to Faroudja (sample of letter sent to proponents), 14 May 1990
-065	Minutes: FCC ACATS PS/WP1 & PS/WP2 Joint Meeting of 29 May 1990
-066	Planning Subcommittee (PS) Statement of Work, Fourth Period, (PS-0075), 18 April 1990
-067	Letter from A.Godber, NBC of 25 April 1990
-068	Draft Agenda, Meeting of 6 July 1990.
-069	Minutes: 1st Meeting of PS/WP1&2 RF Specialist Group, 28 June 1990
-070	Minutes: FCC ACATS PS/WP1 & PS/WP2 Joint Meeting of 6 July 1990
-071	Draft Agenda, Meeting of 8 October 1990.
-072	Minutes: FCC ACATS PS/WP1 & PS/WP2 Joint Meeting of 8 October 1990
-073	Letter from J.Flaherty, PS Chair, to Messrs. Green and McMann, 7 September 1990.
-074	Letter from B.Dickens, CBS to R.McMann, 3 October 1990
-075	Letter from A.Godber, NBC to R.McMann, 8 October 1990
-076	Report of SS/WP2 AHG on Alternative Site Search, 10 September 1990
-077	Letter from R.Lee, Zenith to R.McMann, 8 October 1990
-078	Attributes/Systems Matrix, Revision 2
-079	Memo from R.McMann to M.Richer, Chair SS/WP2; 26 Nov 90
-080	Chairman's 4th Interim Report
-081	List of Participants

Advar

TV

Advisory Committee on Advanced Television (ATV) Service

PS/WP1&2-061

JOINT MEETING NOTICE

FCC ADVISORY COMMITTEE ON ADVANCED TELEVISION SERVICE
PLANNING SUBCOMMITTEE, WORKING PARTIES ONE AND TWO

29 MAY 1990
10:00 AM

NBC
30 ROCKEFELLER PLAZA
MEZZANINE CONFERENCE ROOM C
NEW YORK, NEW YORK

DRAFT AGENDA

1. Call to order by the Chairman

2. Introductory Remarks

3. Approve agenda

4. Review of the fourth period work statement including:
   a) audio test procedures
   b) dynamic resolution test methodology
   c) system field testing

5. Additional items for discussion:
   a) use of showscan program material
   b) develop test method for EDTV into IDTV receivers*
   c) use of pre-enhanced material

6. New Business

7. Adjournment

* see North American Philips enclosure dated 12/14/89

345 SCARBOROUGH ROAD
BRIARCLIFF MANOR, N.Y. 10510
PHONE: (914) 945-6000

NORTH AMERICAN PHILIPS CORPORATION

PHILIPS LABORATORIES

Date: 12/14/89

PS/WP1 & WP2 - 062

Jack Kean
John W. Kean Associates
25 Sunset Road C-13
Old Saybrook, CT 06475

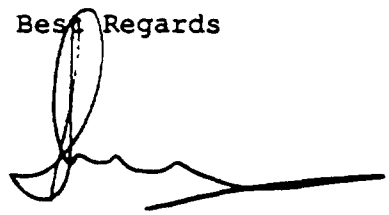
FAX: 203-388-6137

Dear Jack:

Enclosed is our initial recommendations for proper tests for 2-D and 3-D NTSC/EDTV prefiltering. In order to carry out complete recommendations the prefiltering system should be removed from specific ATV proponent hardware constrains and should carried out as a separate issue. Subsequently recommendations could be given to ATV, EDTV or IDTV system implementor on how to approach this properly.

We are willing to participate in the strategic performance evaluation of EDTV and IDTV schemes. We like to offer the generation of the required test patterns as well as support in defining specific test procedures and carrying out tests.

Best Regards



Mikhail Tsinberg
Research Department Head
Advanced Television Systems Department

Pre-filtering in EDTV Systems - Recommendation for Testing

The use of 2D and 3D filter techniques at EDTV encoders and decoders requires special test procedures to evaluate the system performance on all kinds of picture contents. In particular, studies of 3D or temporal processing like frame and field comb filters, have to employ reliable moving test patterns, which were not known in television measurement so far.

Test patterns for performance check of 2D and 3D filters:

1. Circular Zone Plate, monochrome [1, 2, 3]
   examples: VG zone plate generator, parameters: x2, y2, BTS Test D7, BTS H-1000, Tektronix TSG 1000

2. Circular Zone Plate, color
   examples: BTS Test D7, BTS H-1000

3. Elliptical Zone Plate, monochrome [3]
   examples: VG zone plate generator, parameters: y2, xt

4. Color patches
   examples: like color bars of Tektronix 1410 (in reversed mode), but with all different color transitions in each direction

All test patterns have to be available

a) in stationary mode
   for checking of still picture performance

b) with different (selectable) speeds of motion
   for evaluation of motion portrayal

c) with different rates of acceleration
   for continuous scan of parameter spaces

d) with adjustable luminance contrast
   for performance check of adaptive filters

e) with adjustable color saturation (independently for each color difference signal)
   for performance check of adaptive filters

These test patterns allow to check visually (on the TV screen of the receiver) and by measurement (with oscilloscope):

a) 3D luminance bandwidths
b) 3D chrominance bandwidths
c) cross color (or `color moire') (in 3D terms)
d) cross luminance (or `dot patterns', subcarrier) (in 3D terms)
e) additional artifacts, which may be caused
   *by certain adaptive implementations,
   *by additional subcarriers,
   *by compression and expansion techniques,
   *by companding and expanding techniques and
   *by certain filter implementations.

Most of these test patterns and their desirable flexibility and

adjustment parameters are not available as commercial products so far. Also, if available for some standards, no equivalent patterns, which cover the respective full range of resolution, are available for certain other standards.

For a generalized test procedure of EDTV systems, it is therefore recommended, to generate the above mentioned patterns by software and to provide them to the equipment under test by a real time video sequence system (DVS, VTE).

References

[1] Weston, M. - A set of Time Varying Television Test Patterns, BBC Research Department Report 1980/9

[2] Drewery, J.O. - The Zone Plate as a Television Test Pattern, BBC Research Department Report 1978/23

[3] Teichner, D. - Three-dimensional Pre- and Post-Filtering for PAL TV Signals, ntz Archiv, Vol. 10 (1988), No. 6-8

December 13, 1989

Dr. -Ing. Detlef Teichner
Project Leader IDTV/EDTV
Philips Laboratories, Briarcliff Manor, NY

WILEY, REIN & FIELDING

1776 K STREET, N.W.
WASHINGTON, D.C. 20006
(202) 429-7000

RICHARD E. WILEY
(202) 429-7010

PS/WP1 & WP2 - 063

May 10, 1990

FACSIMILE
(202) 429-7049
TELEX 248349 WYRN UR

Joseph A. Flaherty
VP & General Manager
Engineering & Development
CBS, Inc.
555 W. 57th Street - 10th Floor
New York, NY 10019

Irwin Dorros
Exec. VP, Technical Services
Bellcore
290 W. Mount Pleasant Avenue
Room 1 E 309
Livingston, NJ 07039-2729

Dear Joe and Irwin:

As you may recall, at the meeting with proponents last week, Wayne Luplow of Zenith expressed concern that some duplication of effort between working parties in the Planning and Systems Subcommittees could arise in the development of test procedures for dynamic resolution and audio performance. The purpose of this letter is to ensure that such redundancy does not occur.

As you know, PS/WP's 1 and 2 are to define attributes and specify tests for assessing those attributes. SS/WP-2 is intended to develop test procedures based on those specifications. As stated in the Third Interim Report, I expect to have procedures for dynamic resolution and audio performance approved by the Subcommittees involved no later than July 31, 1990. Given the shortness of time available to develop these procedures, I recommend that your working parties meet jointly until this project is completed.

There is somewhat more time available to develop the field test procedures, however. Therefore, for this project I suggest that your working parties employ the standard sequential procedure (i.e., SS/WP-2 takes input from PS/WP-2). This approach will permit a full airing of the planning issues before work begins on the details of the measurement procedures. Obviously, the Planning Subcommittee must not be a source of delay if we are to complete the project by the

end of the calendar year. Therefore, I recommend that the Planning Subcommittee endeavor to complete its work by July 31, 1990. That should provide ample time for the Systems Subcommittee to complete its portion of the project.

If you have any questions regarding this approach, feel free to contact me.

Best personal regards.

Sincerely,

Richard E. Wiley
Chairman, FCC Advisory Committee